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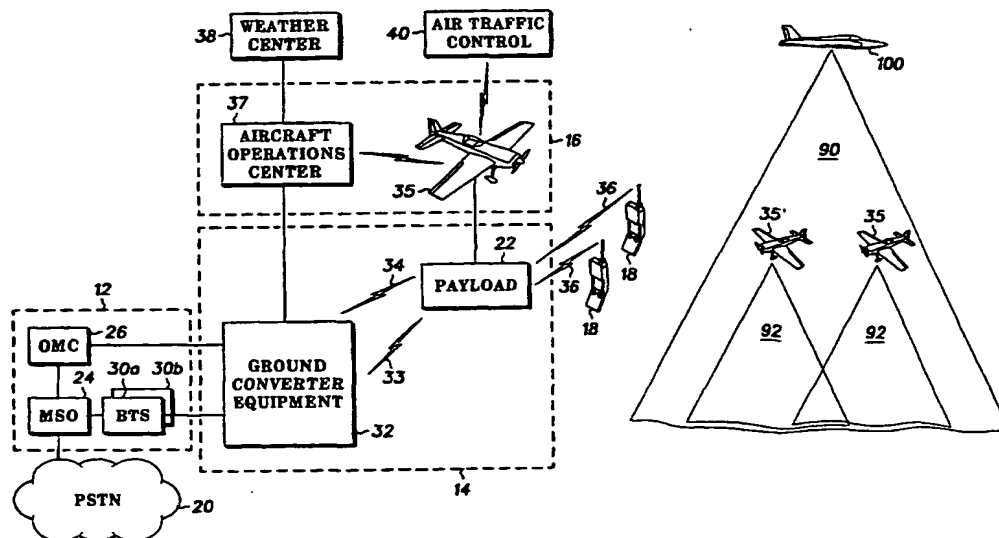
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- (54) Title: MULTI-AIRPLANE CELLULAR COMMUNICATIONS SYSTEM**



- (57) Abstract:** A communications link for a cellular communications system (10) includes a first airplane (35) for flying in a first pattern (86) and including a first antenna for transmitting RF beams (92) to form a first footprint (96) on a first target geographic area (98) to provide cellular phone users (18) within the footprint with a first communications link. A second airplane (35') flies in a second pattern (86) and includes a second antenna for transmitting RF beams (92) to form a second footprint (96) on a second target geographic area (98) to provide cellular phone users (18) within the second footprint with a second communications link. The first and second airplanes each fly at an altitude that is below a high altitude level and that is varied to enable continuous uninterrupted coverage to be provided to a service area below in a weather pattern-independent and geographic feature-independent manner.

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